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RHEBAAA/DEPT OF ENERGY WASHDC
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STATE FOR OES/IHB, OES/SAT, OES/PCI AND OES/EGC
STATE FOR EAP/K, ISN/NESS AND STAS
STATE PASS TO EPA FOR INTERNATIONAL PROGRAMS
WHITE HOUSE FOR OSTP AND CEQ
DOE FOR INTERNATIONAL, NE, FE, AND EERE
USDOC FOR 4400/MAC/EAP/OPB/ITA/TA
USDOC FOR NIST
HHS FOR OGHA
HHS PASS TO NIH FOR FIC
STATE PASS TO NSF FOR INTL PROGRAMS
STATE PASS TO NRC FOR INTL PROGRAMS

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ENVIRONMENT

Draft Bill on "Green Growth" Submitted to National Assembly; Debate on Cap-and-Trade Spirited

11. After several rounds of public hearings, the Lee Myung-bak administration submitted draft legislation entitled "The Basic Law on Low Carbon and Green Growth" to the National Assembly on February 128. The proposed legislation calls for the introduction of a market-based cap-and-trade system on domestic carbon emissions, increased R&D into renewable energy technologies, and expanded construction and use of domestic nuclear power plants. The bill also contains a four-year 50-trillion won (USD 38 billion) "Green New Deal," which comprises a series of eco-friendly infrastructure projects designed to create nearly one million jobs. During the public hearings, the proposed introduction of the emissions cap-and-trade system became a controversial and divisive topic among business representatives, who sought to delay or modify its implementation, and academics and environmental NGOs who generally favored early and strict implementation.

12. The government hopes the draft legislation will be passed by the National Assembly in the upcoming April special sessions. Officials told ESTH that since the Basic Law does not specify the timing or spell out the details of how the cap-and-trade scheme would work, they expect a spirited debate among stakeholders - with the government in the middle, between businesses and environmental groups - when it comes time to devise the particulars of the fully designed carbon trading system.

Structure of New Presidential Green Growth Committee Described

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13. On February 16, the government combined three existing national committees - the Climate Change Committee, the Sustainable Development Committee, and the Energy Committee -- to form a new Presidential Green Growth Committee (PGGC) that will oversee all aspects of the submitted green growth legislation, as well as guide the government's approach to global climate change in the international arena. The PGGC, which is expected to convene once a month, is composed of more than 50 government officials and civilian members and is co-chaired by the Prime Minister and a civilian representative. The PGCC has three subcommittees - the Green Growth and Industry Subcommittee, the Climate Change and Energy Subcommittee, and the Green Life for Sustainable Development Subcommittee. Each subcommittee is composed of 9 or 10 members, nearly all of whom are non-government academics.

14. In addition, the PGGC is guided by an inter-agency task force composed of about 50 officials from various government agencies. The Task Force itself is composed of six teams: 1) Policy Planning and Coordination, 2) Taskforce on International Cooperation, 3) Energy Policy, 4) Climate Change Policy, 5) Green Technology, and 6) Green Life for Sustainable Development.

KIA Motors Unveils Hybrid Car

15. On March 24, Kia Motors, Korea's second largest automaker, unveiled a hybrid version of its Forte compact car, featuring high-end lithium-ion battery technology. The Forte hybrid operates both on liquid petroleum gas in a 1.6 liter gas-powered engine and on electricity from a lithium-ion battery. The Kia statement said that the Forte hybrid obtains 17.2 kilometers per liter with 114 horsepower at its peak. Experts say that hybrid cars equipped with lithium-ion batteries will be significantly cheaper to manufacture than the current hybrids using conventional nickel-metal hydride batteries.

KIST Research on Microbial Fuel Cells Shows Promise

16. In its most recent newsletter, the Korea Institute for Science and Technology (KIST) described ongoing research using bacteria to treat and to generate electricity from wastewater. In conventional wastewater treatment, wastewater is aerated to supply oxygen to

microbes to break down organic contaminants. The growing bacterial mass (sludge) is removed by physical means leaving relatively cleaner waste. KIST is developing a microbial fuel cell in which a consortium of bacterial species transfers electrons from their breakdown of organic wastes to iron anodes connected to oxygenated cathodes, producing electricity in the process. In the experimental model, because the bacteria transfer most of their metabolic energy into electricity rather than using it for cell division and growth, the amount of sludge produced is decreased up to 80 percent - a potentially important improvement to the conventional wastewater treatment process. In addition, the electricity generated can be captured for use - KIST calculations estimate that applying this method to the wastewater from a town of 100,000 people could generate enough electricity to meet the consumption of 867 homes. The article notes, however, that commercialization of a wastewater microbial fuel cell is still a long way off. More research is needed in both the microbiological and electrochemical aspects of this promising technology.

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Science & Technology

South Korea's Corporate R&D Expected to Increase Two Percent this Year

¶17. According to a survey of 700 private companies conducted by the Ministry of Education, Science and Technology on February 23, South Korean companies' spending on research and development (R&D) is likely to rise two percent in 2009 from 2008 despite the current economic slump. Korean private companies are expected to spend a total of 27.6 trillion won (USD 18.3 billion) on R&D in 2009, a two percent increase from 2008.

Ministry of Knowledge Economy Unveils Blueprint to Boost Robotics Industry

¶18. The Ministry of Knowledge Economy (MKE) in a March 5 public hearing, unveiled a blueprint to inject one trillion won (USD 676 million) into robotics research and development over the next five years. The plan also calls for Korean robotics companies to expand the functionality of robotics to include recreation, surveillance, medical services, fire fighting, and transportation.

¶19. With increased spending, MKE projects the country's share of the global robotics industry could likely rise to 13.3 percent of global production by 2013, from 5.7 percent in 2007 and 7.9 percent in ¶2008. The goal is to promote Korea to one of the three largest global robotics producers by 2013. South Korea currently ranks fifth in the world, according to the International Federation of Robotics. Japan leads the sector, followed by the United States, Germany and Italy.

Doosan Heavy Industries Exports Nuclear Reactor to China; KEPCO to Construct Entire Nuclear Plant in Jordan

¶110. Local news reported on February 9 that Doosan Heavy Industries and Construction exported a nuclear reactor to China under a contract awarded by the China National Nuclear Corporation in August ¶2005. The 600-megawatt pressurized light water nuclear reactor is to be installed at the Qinsan phase 2 nuclear power station in Zhejiang, eastern China. This is the first Korean-made nuclear reactor - the core component of a nuclear power plant - to be exported outside the country.

¶111. Separately, local media reported on March 12 that KEPCO is in discussions with the Jordan Atomic Energy Commission about constructing a nuclear power plant near Aqaba, a city on Jordan's southern coast. This would mark the first Korean-type nuclear power plant to be constructed overseas. Korea KEPCO CEO Kim Sang-soo, who

visited Jordan in early March, said, "It is highly likely we will have tangible [decision] as early as April or May." The construction project would cost approximately USD 5 billion and would be completed in 2017.

Korean Memory Chipmakers Widen Their Lead over Rivals

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¶12. Samsung Electronics and Hynix Semiconductor, the world's two biggest memory chipmakers by market share, have been widening the technology gap with their overseas rivals, according local news reports of February 8. On the same day that Hynix announced it had successfully developed the world's first one-gigabit DRAM chip using an advanced 44-nanometer technology, Samsung Electronics also reported that it had developed a DDR2 DRAM chip and module using 40-nano technology. Analysts and industry watchers say technology developments by the Korean duo will enable them to raise their share of the global memory chip market even further amid industry consolidation.

Health

U.S.-Korea International Tuberculosis Research Center Launched as an Independent Foundation

¶13. U.S. Ambassador Kathleen Stephens and Health Minister Jeon Jae-hee launched the 3-year-old joint U.S.-Korea International Tuberculosis Research Center (ITRC) as an independent foundation on March 2 in a ceremony at the Korea Tuberculosis Association headquarters in Seoul. It had previously been a program under the Korean National Tuberculosis Association. The ITRC is the most significant collaborative health project the U.S. undertakes with Korea. Its primary mission is the discovery and development of new medicines to combat Multi-Drug Resistant Tuberculosis (MDR-TB) and Extensively Drug Resistant Tuberculosis (XDR-TB), which have emerged in recent years as a serious and growing global health threat.

¶14. The work of the ITRC takes place at the Masan National Tuberculosis Hospital about 40 km west of Busan. The Center is equally funded, USD one million annually each, by the U.S. National Institutes of Health (NIH) and the Korean Ministry of Health, Welfare and Family Affairs. Doctors and technologists from the NIH visit throughout the year in both a management and technical capacity. Since the research at the ITRC will benefit tuberculosis patients around the world, including those in developing countries, the ITRC is an example of the U.S.-Korea partnership transcending the Peninsula and engaging in issues of global concern. Collaboration between the ITRC, NIH, and researchers at Yeshiva University in New York has resulted in the first new class of compounds that could potentially be approved for the treatment of TB in the last 40 years. An upcoming issue of Science magazine will discuss this promising new approach.

Korea's Fertility Rate Falls to 1.19, Posing Social and Economic Challenges, Opportunities

¶15. South Korea's fertility rate -- the average number of babies a woman is expected to give birth to over her lifetime -- decreased slightly to 1.19 in 2008 from 1.25 in 2007, according to a preliminary report released by the Ministry of Health, Welfare and Family Affairs. The birth rate also fell. The number of newborn babies was 466,000 in 2008, down 27,000 or 5.5 percent from 493,000 in 2007.

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¶16. Visiting scholar Paul Hewit of the Center for Strategic and

International Studies notes that projections indicate Korea will have the highest median age in the world by 2050. While this will pose significant social and economic challenges, it also provides an opportunity for Korea to be a model as other countries experience an ageing of their populations -- particularly since Korea does not have a legacy as a traditional social welfare state that skews benefits to seniors. Mr. Hewitt recommends multi-generational, family-centered programs to cope with the inevitable problems on the horizon. These include: mid-life education, financial incentives for child-bearing families and elder workers, subsidized education, day-care, and other child-rearing costs, and a retirement account/pension program that allows individuals to contribute more to their own retirement to lessen dependency on the government system.

One in Seven Seoul Students Classified as Overweight

¶17. One out of seven students in Seoul is overweight, due to excessive intake of junk food and lack of exercise, the city's educational board said on March 5. A report issued by the Seoul Metropolitan Office of Education showed 13.7 percent of students in elementary, middle and high schools are overweight and suggested these students should receive special dietary treatment.

¶18. Seoul introduced dietary control measures last year over the sale of unhealthy snacks, including soda, instant noodles, and other fried foods, at snack bars or through vending machines at schools. The Education Ministry has also stepped up efforts to counter the rise in teenage obesity. Starting later this year, school cafeterias throughout the country will be required to provide detailed nutritional information for all snacks and drinks sold, including the amounts of protein, vitamin, fat and carbohydrate content of the foods.

STEPHENS